ACR-007
ADMINISTRATIVE CONTRACTOR REQUIREMENTS

WASTE MATERIAL HANDLING CRITERIA FOR CONSTRUCTION PROJECTS

Part 1. GENERAL

1.0 SCOPE

These requirements state the waste handling requirements for Construction Projects and do not apply to Decontamination and Dismantlement (D&D) Projects. For the waste handling requirements for D&D Projects refer to Engineering Specification Section 01120.

1.1 SECTION INCLUDES

A. This section provides the requirements for handling and packaging of waste materials generated during the implementation of the Contract. These waste materials will be segregated into established waste categories and packaged into waste containers accordingly. This includes, but is not limited to, the following:

1. Segregation of waste materials.
2. Containerization of waste.
3. Movement of waste containers within the construction zone.
4. Documentation.
5. Weighing and labeling of waste containers.

1.2 DEFINITIONS

A. Clean Construction Waste - Material which as a result of construction activities, is brought onto the Fernald Environmental Management Project (FEMP) by the Contractor or is created by construction activities and which, if properly handled, can be surveyed or characterized and released as a non-radioactive waste and as non-hazardous waste. Examples of this include packaging from new material or excess building material from a new construction site such as drywall, piping, insulation, etc.

B. Construction Zone - Contractor's work area .

C. Corrosive Materials - A solid waste that exhibits the characteristics of corrosivity if a representative sample of the waste has either of the following properties:

Aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5.

Corrodes steel at a rate of > 6.35 mm/yy, tested by NACE Standard TM-01-69.

D. Debris - Solid materials that exceed a 60mm (2.5 inch) particle size and are manufactured objects, plant or animal matter, or natural geologic material except for the following: process residuals (e.g., unmilled magnesium fluoride [MgF_2] and residuals from the treatment of waste, wastewater, sludges, air emission residues); intact containers of hazardous waste that are not ruptured and retain at least 75% of their

original volume: and certain hazardous waste for which EPA has promulgated specific treatment standards under 40 CFR Part 268, Subpart D. Debris is defined in 40 CFR 268.2(g).

E. **Etiologic Agents - A viable microorganism or its toxin, which is listed in 42 CFR 72.3, code of regulations of the Department of Health and Human Services or which causes or may cause severe disabling or fatal human disease.**

F. **Free Liquid - Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure. Low Level Radioactive Waste disposed at the NTS waste management sites shall contain as little free liquids as is reasonably achievable, but in no case shall liquid equal or exceed 0.5 percent by volume of the external waste container. Ice is also considered a free liquid.**

G. **Free Release of Material - A release of property based on formal documented decision by Fluor Daniel Fernald that the property may be utilized, treated, or disposed of by any party without concern for radioactive content. It does not mean that the material is unregulated by hazardous material/waste laws.**

H. **Full Container - A container is "Full" when the weight or volume of the container is equal to the weight or volume capacity for the particular container type. (Some means of waste compaction should be utilized where possible if the container is not at the weight capacity).**

I. **Hazardous Waste - A discarded or abandoned material listed in the Environmental Protection Agency Hazardous Waste List which poses a threat to human and/or the environment and which exhibits any of the following four characteristics: ignitability, corrosivity, reactivity, or Toxicity Characteristic Leaching Procedure (TCLP) toxicity. Both "listed" and "characteristic" wastes are regulated under RCRA.**

J. **ISO Container - An intermodal container (Dry Cargo Type). Those used at the FEMP are typically referred to as a "Sea/Land" container.**

K. **Low Level Radioactive Waste (LLRW) - Waste that contains radioactive material and is not classified as high level waste, transuranic waste, spent nuclear fuel or lle(2) byproduct material as defined by DOE Order 5820.2A. Test specimens of fissionable material irradiated for research and development only, and not for the production of power or plutonium, may be classified as low-level waste, provided the concentration of transuranic is less than 100 nanocuries per gram.**

L. **Particulates - Waste that is known to be in a particulate form or in a form that could mechanically or chemically be transformed to a particulate during handling and interim storage.**

NOTE: **Fine Particulates shall be immobilized so that they can't get into the air**

and become respirable when a container is opened. When immobilization is impractical, other acceptable waste packaging shall be used, such as the following: Steel Drum with a minimum 6 mil sealed plastic liner, Over packing (i.e., 55 gallon drum inside an 85 gallon drum.), Steel box with no liner, approved Wooden Box with a minimum 6 mil sealed plastic liner.

M. Queuing Area - Area where empty containers are delivered and full containers are removed by FDF and where the Contractor picks up empty containers and returns filled containers.

N. Satellite Accumulation Area (SAA) - An area approved by FDF to accumulate no more than 55 gallons of hazardous waste or 1 quart of acutely hazardous waste at or near the waste generation point under control of the FDF Construction Manager, managing the operation generating waste.

O. Waste Materials - Materials identified as "Waste Stream" on the Material Segregation and Containerization Criteria (MSCC) (Attachment A).

P. Waste Containerization Area - An area on the site where empty waste containers are filled with waste.

1.4 REFERENCES, CODES AND STANDARDS

A. United States Department of Energy (DOE):

1. DOE 5480.3: Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances and Hazardous Waste.

2. DOE 5400.5: Radiation Protection of the Public and the Environment.

1.5 SUBMITTALS

A. The Contractor shall submit the following for compliance review by the FDF Construction Manager:

1. Prior to mobilization, the Contractor shall submit a detailed waste handling work plan for approval by the FDF Construction Manager, including equipment for loading and handling waste containers. The Contractor can use this criteria as a guideline for development of this work plan.

1.6 PROJECT CONDITIONS

A. Material Segregation and Containerization Criteria (MSCC). Construction activities will produce categories of waste as indicated in the MSCC, Attachment A.

B. Waste Minimization - Generation of waste shall be minimized by unpacking equipment and material prior to entering the Controlled Area whenever possible. Pre-job planning shall be used to ensure the minimum number of tools and equipment needed to complete the job is minimized. The Contractor shall not bring any hazardous material to the construction zone unless prior approval is received from the FDF Construction Manager. Alternatives to hazardous materials shall be used whenever possible.

C. AEROSOL SPRAY CANS - Spray cans shall not be brought on the site; however, if they are required for the project, and no other alternatives are available, the Contractor is required to decontaminate and make them RCRA non-hazardous, if required, and remove them from the FEMP site. If cans cannot be decontaminated contact the FDF Construction Manager.

D. WASTE OILS AND HYDRAULIC FLUIDS - Equipment shall be serviced outside of the Controlled Area in order to minimize the generation of radioactive/mixed waste. If this is not possible, the Contractor shall contact FDF for guidelines on-site controls.

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed of by the Contractor in accordance with Federal, State, and local laws and regulations.

E. UNSURVEYABLE WASTES - When Contractors require liquids (such as paints, thinners, caulks, spackle, roof tar, etc.), they shall follow these guidelines:

Contractor shall submit an MSDS for <u>all</u> liquids during the submittal process.

After the Contractor contacts FDF regarding what liquids need to be brought on the site, the FDF Construction Manager will provide storage and handling guidelines.

The Contractor is responsible for minimizing and/or removing <u>all</u> "Free Release" excess material from the site for disposal in a suitable manner.

If a material <u>can not</u> be "Free Released" based on Radiological Controls, the Contractor shall contact the Construction Manager.

F. Interim Management - The Contractor shall supply a tarp, plastic or similar barrier to cover the waste material while it is awaiting characterization/radiological survey. Material which is wet, muddy, or covered with snow and ice can not be properly surveyed for unrestricted release. Any cleaning required to facilitate the survey shall be by the Contractor. An additional Contractor supplied barrier may need to be established on the ground underneath the waste material. The Radiological Control Engineer establishing the area, shall determine if this additional barrier is needed

depending on the physical and radiological conditions of the laydown area.

This may include excess soil generated from excavations that is unusable for backfill or used within the project boundaries.

G. Disposal of Hazardous and Radiological Waste - Unless otherwise stated in this Contract, FDF will dispose of all Contractor or FDF generated hazardous waste, and radiological waste generated as a result of work on this project.

The Contractor shall always segregate hazardous waste from other materials and wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against spillage such as installing berms or other appropriate measures shall be taken.

FDF reserves the right to backcharge the Contractor for costs associated with waste disposal where the Contractor fails to minimize waste.

H. Radiological and Hazardous Waste Determination - FDF shall be responsible for determining whether waste generated by the contractor is radiologically contaminated, hazardous or clean construction waste..

Part 2 Container Responsibility

2.1 CONTAINER MOVING EQUIPMENT

A. Contractor shall supply all equipment required to move containers (except ISO) between and within the queuing area and construction zone, as well as all equipment to fill containers and install lids (except ISO).

2.2 CONTAINERS

A. The FDF Construction Manager will provide appropriate containers for waste categories as identified on the Material Segregation and Containerization Criteria. These containers include, but are not limited to, the following:

Container Designation	Nominal Exterior Dimensions (HXWXL)	Maximum Gross Weight (lbs)	
Large metal box (top load)	8'x8'x20'	42,000	NOTE: Lids weigh 1,000 lbs.
ISO container (end load)	8'x8'x20'	42,000	
Small metal box (7A Box)	3'x4'x6'	9,000	
55-gallon drum with lid	---	882	
Roll-Off Boxes (ROB)	6'x8'x22'	42,000	

Radiation (uranium)Contaminated Trash Dumpster	N/A	N/A	NOTE: All movement by FDF

Part 3 EXECUTION

3.1 PREPARATION

A. The Contractor shall establish a queuing area in the location indicated on referenced drawings and install a controlled boundary to define this area.

B. The Contractor shall give the FDF Construction Manager at least 2 working days notice prior to the need of containers.

C. FDF will deliver empty containers and pallets (possibly radiologically contaminated), to the container staging area. The FDF Construction Manager will disposition full containers placed in this area by the Contractor.

D. The Contractor shall identify a RCRA satellite accumulation area and a 90-day storage area, where all generated/removed hazardous waste shall be taken once a day by Contractor personnel. These areas will be controlled by FDF personnel and shall be located to minimize disruption to construction activities. Areas shall be secured to prevent unauthorized entry. Size and location of the accumulation and storage areas shall be coordinated with the FDF Construction Manager.

E. FDF will provide prepared (as required) containers.

F. The Contractor shall visually inspect containers, when delivered, for corrosion, dents, holes, dislodged interior preparation material (Dicolite, pallets, or plywood), and other defects and notify FDF Construction if damage is found.

3.2 APPLICATION

A. The Contractor shall be responsible for retrieving empty containers from the queuing area: for segregating; containerizing waste materials; securing lid on containers (i.e. installing the four corner bolts); inspecting containers; and transporting containers back to the queuing area. The Contractor shall use the MSCC as the basis of all containerization activities.

3.3 CONTAINERIZATION OF WASTE

A. The Contractor shall:

1. Provide a waste handling supervisor, knowledgeable of this criteria, to supervise all containerizing operations.

2. Ensure that personnel containerize waste in accordance with this specification.

3. Segregate and package all waste according to the categories defined in the

MSCC.

4. No material or equipment item placed in FDF supplied containers shall have protrusions of greater than approximately one (1) foot or as specified in the "size criteria" column of the MSCC. The Contractor shall limit to 20 degrees, the maximum deflection in any material (pipe, steel shapes, etc.). The Contractor shall take care in placing material so that protrusions on material does not hinder the minimization of void space, or cause damage to waste containers.

5. Select appropriate container for waste stream by use of information on the MSCC (Attachment A). This form identifies all anticipated waste streams that will be encountered. Should a waste stream be discovered that is not on the MSCC, then work on the handling of this waste shall stop. Contact the FDF Construction Manager for direction on appropriate methods to containerize or manage the waste, while characterization is completed.

6. Fill containers, boxes and drums such that the interior volume is as efficiently and compactly loaded as practical up to the maximum gross weight limit of the container or until full. Any container exceeding maximum allowable gross weight shall have contents removed by the Contractor, as required, to lower the weight to an acceptable range. Containers shall be prepared for movement so as to minimize load shifting or damage during transit.

7. Ensure that waste to be containerized is not on the following "Prohibited Materials List." This list shall be displayed on each container. Notify the FDF Construction Manager if any of the prohibited materials are identified.

PROHIBITED MATERIALS LIST

1. Compressed gases (i.e., unpunctured aerosol cans)
2. Explosives
3. Free liquids
4. Fine Particulates (respirable fines)
5. Hazardous waste
6. Corrosive materials
7. Etiologic agents

8. Notify the FDF Construction Manager at least 24 hours in advance of loading containers.

9. Visually check waste for free liquid prior to loading. Ice is considered a free liquid. If free liquid is present or material is wet, notify the FDF Construction Manager. Appropriate action will be taken to absorb free liquid.

10. Take precautions to avoid damaging the container during loading.

11. Be is responsible for damage to container during loading and transport to and from queuing area.

3.4 SECURITY AND MOVEMENT OF CONTAINERS

A. The Contractor shall:

1. Move containers to the specific waste containerization area from the queuing area.

2. Ensure that the lid or doors on unfilled waste containers are secured when no containerization is in progress to prevent addition of unknown materials. Containers must be weather protected, when the lid is not secured, to prevent entry of snow and rain.

3. Prior to securing full containers contact the FDF Construction Manager to visually verify contents.

4. Secure full containers.
   a. ISO containers will be secured as follows:
      1) Place lid on Top Loading ISO and bolt in place.
      2) Close and latch doors, ensuring that all latching mechanisms are engaged.
      3) Final preparations will be made by FDF.

   b. Drums will be secured as follows:
      1) Place lid on drum, ensuring that gasket is seated to maintain a tight seal.
      2) Install bolt-type lock ring on lid and torque to 45 ± 5 foot pounds.
      3) Drums shall be secured to pallets with the bolt of the locking ring facing out.

   c. Metal boxes (large and small) will be secured as follows:
      1) Place gasket and lid on the box and secure.

   d. Roll off boxes shall be secured as follows:
      1) Ensure that door is shut and secured.
      2) Place and tighten tarp over containers.
      3) Attach a weatherproof tag with category contents, Contractor's name, Contract number and date.

Ensure that no liquids of any kind have been placed in containers, heavy or bulk items have been secured within the container, all available space has been utilized efficiently, prohibited materials have been excluded, container has not been damaged during loading.

Return full containers back to the queuing area.

3.5 USING CLEAN WASTE CONTAINERS (DUMPSTERS) IN CONTROLLED AREAS

A. The clean waste container shall be locked at all times while in the Controlled Area unless a Radiological Control Technician is present. Radiological Control shall provide and maintain the lock and key to all clean waste containers.

B. The Contractor shall provide a lockable clean dumpster and have it delivered to the area of the project.

C. LOADING A CLEAN WASTE DUMPSTER

1) The Contractor shall contact the FDF Construction Manager one (1) hour in advance, to inform him/her of the time planned to load the dumpster.

2) Clean Construction Waste shall be surveyed and loaded on a daily basis to prevent an excessive amount from piling up near the container.

3) Radiological Control will unlock dumpster and survey waste as per Radiological Control Department Procedures.

4) The Contractor will handle waste as required for the Radiation Control Technician to survey all sides.

5) Radiological Control will lock the dumpster when the loading is complete.

D. REMOVING A CLEAN WASTE DUMPSTER FROM SITE

1) The Contractor shall inform the FDF Construction Coordinator, that the dumpster is full and needs to be radiologically inspected, removed and replaced.

2) Radiological Control will survey the dumpster being removed, complete documentation as required for removal of the full dumpster and escort the dumpster to the gate with the documentation.

3) The truck will be surveyed at the gate.

3.6 USING CONTAMINATED TRASH DUMPSTERS

3.6.1 BAG INSPECTION

The Contractor Shall:

- **Visually examine the trash for prohibited items or categories of waste during bagging operation in bags provided by FDF.**
- **Remove prohibited items from the trash and dispose of in an approved manner as instructed by the Construction Manager or Project Documents.**
- **Contact the Construction Manager and request disposition instructions for non-bagged items.**

3.6.2 FILLING CONTAMINATED TRASH DUMPSTERS

The Contractor Shall:

- **Place the small/loose material in clear plastic bags provided by FDF.**
- **Inspect the trash in the secured clear plastic bag to ensure there are no prohibited items as posted on each dumpster.**
- **Gather or twist the open end of the bag until the opening is closed. Using tape, secure the bag.**
- **Ensure that the building, office area, or project from which the trash originated is clearly marked on the bags with a permanent marker or paint pen.**
- **Contact the person listed on the information sheet posted on the dumpster to obtain approval for disposal and the lock key.**
- **Unlock the dumpster and place bulky items (such as oversize pieces of cardboard) directly into the dumpster.**

- **CAUTION:**

  Metal and pieces of wood over six inches in the largest dimension shall not be placed in the dumpster.

  Do not place unsecured, unidentified bags or damaged bags into the dumpster. Do not place green-tinted "clean office trash bags" into the dumpsters. These bags are disposed of separately from the contaminated trash. A "clean office trash" program has been established and green-tinted bags are accumulated next to the contaminated trash dumpsters. The green tinted bags are picked up by transportation on a regular basis.

- **Lock the dumpster and return the lock key to the Construction Manager.**
- **Notify the Construction Manager when the dumpster becomes full and requires emptying.**

3.7 COLLECTION AND CONTAINERIZING OF CONTROLLED AREA OFFICE TRASH

The Contractor Shall:

3.7.1 Collect office trash from office areas that are approved by the Radiological Control Manager (or designee)for participation in the controlled area office trash program.

3.7.2 Segregate items suspected to be contaminated or items not normally discarded into office area trash containers and discard as contaminated into contaminated dumpsters. These items include, but are not limited to: tools, equipment, mop heads, hose clamps, protective clothing (Anti-C's, gloves, booties, coveralls), yellow maslin, yellow tape/Rad Con tape, yellow herculite, yellow shoe covers, radiological smears and radiological safety signs.

3.7.3 If any suspect materials are identified as radiologically contaminated (with the exception of tools and equipment), dispose of them as contaminated material in a contaminated dumpster.

3.7.4 If tools or equipment are detected as radiologically contaminated, contact Construction Manager for proper decontamination or disposition procedure.

3.7.5 Package office trash collected daily in green tinted translucent plastic trash bags provided by FDF. These type bags are exclusive for the Controlled Area office trash disposal program.

3.7.6 Seal each clear trash bag and green trash bag with tape (not yellow in color) and indicate the building or area where the trash was generated directly on each trash bag with a paint stick or permanent marker.

3.7.7 Place all green tinted translucent plastic trash bags next to a contaminated trash dumpster for pick up by FDF.

3.8 FIELD QUALITY ASSURANCE

The Contractor shall inspect filled containers upon their return to the queuing area to verify that no damage has occurred, during the filling of the container. Repair or replace damaged containers as directed by the FDF Construction Manager.

Material Segregation and Containerization Criteria

SWIFTS Project # _____ Rev.# ____

TASK	WASTE STREAM	PREFERRED CONTAINERS								
		LARGE METAL BOX (Top Loader)	SMALL METAL BOX		ISO	DRUM	ROLL-OFF BOX	DUMPSTER	NO CONTAINERS	SIZE CRITERIA
			B-12	B-25						

CATEGORIES:

A - Accessible Metals
B - Inaccessible Metals
C - Process-Related Metals
D - Painted, Light Gauge Metal
E - Concrete
F - Acid Brick
G - Non-Regulated ACM
H - Regulated ACM
I - Miscellaneous Materials
K - Hazardous Waste

FOOTNOTES:

SIZE CRITERIA:

(1) maximum size 10' long x 4' wide x 1' high (including projections)
(2) maximum size 10' long with 1' projection (max. height = 1.5' including projections)
(3) maximum size 6' long x 4' wide x 1.5' high
(4) transite bundles 8' long x 4' wide x 1.5' high
(5) piping w/ > 12" diameter must be split in half lengthwise
(6) cut tires in-half radially
(7) leave intact